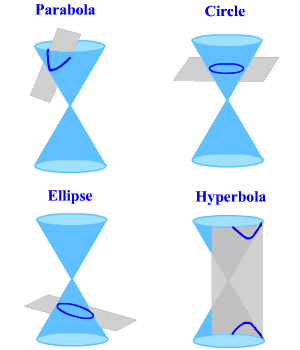
AS 90639 CONIC SECTIONS – sketching graphs of conic sections and writing equations related to conic sections.

A conic section is the intersection of a plane and an upright circular cone. The four basic types of conics are:

* The circle
* The ellipse
* The parabola
* The hyperbola



**A) CIRCLE**

The general equations of a circle are:

centre (0, 0), radius = r

centre (), radius = r

**COMPLETING THE SQUARE FOR A CIRCLE**

Sometimes the equation for a circle is given in the 1st form above where it is not possible to identify just by looking at it whether the equation is a circle or not, and if it is, what the centre and radius are. Therefore we separate out the x terms and the y terms, then complete the square for each.

Example:

1) Complete the square for the equation to obtain the coordinates of the centre of the circle and its radius.

So centre is (2, -3) and radius is 5.

2) Find the centre and the radius of the circle .

Worksheet

Delta Ex 37.1 pg 358 Q1, 2

Extension Ex 37.1 Q3 onwards (Q9 refer to example 4 in textbook)